





Innovating Flow. Powering Industry.

A UNIT OF AK GROUP OF COMPANIES

CRYOGENIC LIQUID REGASSIFICATION AND GAS SUPPLY SYSTEM



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ABOUT US

AEROTECH is deeply committed to delivering excellence in every aspect of service to customers. Specializing in comprehensive piping solutions, AEROTECH provide a vast array of high-quality products, ranging from pipes to an extensive selection of piping spools in both ferrous and non-ferrous materials. With a focus on meeting individual client specifications,

AEROTECH boasts a proficient team dedicated to designing, engineering, manufacturing and even installation, commissioning and testing at site of Gas equipment. AEROTECH ensures all items availability to clients as part of a seamless package. Our ethos revolves around being a dependable one-stop solution provider for all piping needs. Spools are essentially preassembled units created by combining pipes, pipe fittings, and flanges based on specific isometric designs. Once meticulously assembled, these spools are then transported to the installation site for swift and efficient setup.

 **Experience:**

We offer a wide range of service to our clients, We are the one-stop for all your piping & fitting solution; Our experience will help our customer to get the accurate desired solution effectively.

 **Mission:**

The mission of AEROTECH is committed to fulfill our customers expectation by serving them appropriate products and very timely service. Our vision is a long term commitments to the industry and our customers. Which is possible through our collective experience and our belief in honesty, integrity, reliability, long-standing relationships and trust.

 **Vision:**

The vision of company is based on its value of continuous innovation. undying commitment and elaborate customer interaction. The company strives to provide the best possible solution to the customer by listening and understanding the various needs of the customer.

 **Quality:**

Accredited with **ISO 9001:2015** certification, Material are checked through approved and authorised laboratories, with complete component traceability and documentation.

We have policy of continues improvement and are constantly focusing on upgrading our products with a view to enhancing their performance.

 **Registration Certificates**

- ISO 13485: Guarantees your medical gases meet strict regulatory safety standards required for patient care and hospital use.
- ISO 9001:2015: Ensures consistent product quality and operational efficiency across your gas manufacturing processes to maintain high customer satisfaction.
- ISO 14001:2015: Demonstrates your commitment to sustainable manufacturing by minimizing the environmental impact of your gas production and waste.
- ISO 45001:2018: Validates robust safety protocols that protect your workforce while handling high-pressure cylinders and hazardous materials.
- ISO 29001:2020: Certifies that your quality management systems meet the specific, critical safety demands of clients in the oil and gas sector.
- CE Marking: Signifies your gas equipment complies with European health and safety laws, enabling export to the European Economic Area.

MANUFACTURING FACILITY

AEROTECH manufacturing facility over 20,000 sqft, equipped with cutting-edge machinery and manned by a team of over 10 qualified welders and fitters. Their expertise extends to tackling even the most daunting tasks with finesse, supported by adept material handling practices and a range of plant machineries. This setup enables **AEROTECH** to deliver top-tier Gas equipment fabrication services, catering to all requirements.

Fabrication conducted at the shop floor ensures superior quality and construction compared to on-site assembly. Opting to purchase complete units rather than individual parts and assembling them offers a more cost-effective solution, with considerable savings on labor costs. Additionally, on-site warehousing of various parts incurs additional expenses, and material wastage during fabrication adds to the project's overall costs. Pre-fabricated spools not only save substantial time and effort but also significantly reduce project costs.



TEAM WORK - DESIGN ENGINEERING AND QUALITY CONTROL

AEROTECH's dedicated team of engineers specializes in providing comprehensive engineering solutions, covering every aspect of the process. With a firm grasp of cutting-edge technology and equipped with the latest software solutions, the design team excels in crafting flawless designs tailored to fabrication needs.

DETAILED PIPING LAYOUT:

A meticulous blueprint outlining the arrangement of piping systems, ensuring optimal functionality and efficiency.

PIPING LAYOUT DRAWING-ISOMETRIC WITH BOM:

Detailed isometric drawings accompanied by Bills of Materials (BOM), providing a comprehensive view of the piping layout and necessary components.

MATERIAL SPECIFICATION & DIMENSIONAL SPECIFICATION:

Thorough specifications outlining the materials to be used and precise dimensional requirements, ensuring accuracy and quality in fabrication.

By offering end-to-end engineering solutions, **AEROTECH** ensures seamless integration of design and fabrication processes, facilitating efficient project execution and delivering superior results.

KEY FEATURES

CONSULTING

Expert guidance to select the most efficient gas and liquid control systems suited to your industry needs.

DESIGN & ENGINEERING

Customized designs to ensure optimal system performance and meet specific industrial requirements.

ERECTION & COMMISSIONING

Professional installation and commissioning services to ensure a smooth and reliable start-up of your system.

ON-SITE SERVICES

We provide on-site support throughout India and globally, offering comprehensive assistance from installation to maintenance.

WHY CHOOSE **AEROTECH** ?

INNOVATION PRIVATE LIMITED

GLOBAL REACH:

We offer our solutions across India and internationally, ensuring our clients receive world-class services anywhere in the world.

PROVEN EXPERTISE:

Our years of experience and innovation provide you with the most advanced and reliable gas and liquid control systems.

COMPREHENSIVE SOLUTIONS:

From consultation to commissioning, we handle every stage of your project with precision and professionalism.

Partner with **AEROTECH** India for all your gas and liquid control and metering needs and experience superior service and efficiency.

PROJECTS RANGE

PROJECTS	DESCRIPTION AND CAPACITY
LMO SUPPLY SYTEM FOR HOSPITALS	<ul style="list-style-type: none"> LMO STORAGE TANKS: 6 KL TO 30 KL CAPACITY: 100 NM3/HR TO 2000 NM3/HR MOC: CS, SS304, SS316/L
OXYGEN/NITROGEN/ ARGON LIQUID BACKUP AND SUPPLY SYSTEM	<ul style="list-style-type: none"> CRYOGENIC STORAGE TANKS: 6 KL TO 300 KL CAPACITY: 100 NM3/HR TO 20000 NM3/HR PRESSURE CONTROL AND FLOW CONTROL SKIDS PLC SCADA BASED AUTO CONTROL SYSTEM CRYOGENIC LIQUID TRANSFER PUMP SKIDS MOC : CS, SS304, SS316/L
VACUUM JACKETED PIPELINE	<ul style="list-style-type: none"> CRYOGENIC APPLICATION: ARGON, NITROGEN, OXYGEN, HELIUM, LNG PRESSURE RANGE: 1-50 BAR SIZE RANGE: ½” TO 2” NB MOC: SS304/SS316
ON-STE PRESSURE TESTING AND NITROGEN PURGING	<ul style="list-style-type: none"> ON-SITE PRESSURE TESTING, PIPELINE CLEANING, DEGREASING AND PURGING AS PER CLIENT REQUIREMENT, HYDRO TESTING UP TO 500 BAR AND PNEUMATIC UP TO 200 BAR TANKS AND PIPELINE PURGING WITH HIGH VOLUME NITROGEN GAS AND SPECIFIC PRESSURE AND FLOW CONTROL SKIDS
HYDROGEN GAS PRESSURE REDUCING AND SAFETY SYSTEM	<ul style="list-style-type: none"> CAPACITY: 50 TO 1000 NM3/HR PRESSURE RANGE: UP TO 250 BAR PRESSURE AND FLOW CONTROL WITH FLAMEPROOF EQUIPMENT MOC : SS304, SS316/L
LNG REGASIFICATION, PRESSURE REDUCING AND METERING	<ul style="list-style-type: none"> CAPACITY: 50 TO 20000 NM3/HR PRESSURE RANGE: UP TO 50 BAR PRESSURE AND FLOW CONTROL WITH FLAMEPROOF EQUIPMENT MOC : SS304, SS316/L
CNG DE-COMPRESSON, PRMS	<ul style="list-style-type: none"> CAPACITY: 50 TO 5000 NM3/HR PRESSURE RANGE: UP TO 250 BAR PRESSURE AND FLOW CONTROL WITH FLAMEPROOF EQUIPMENT

OXYGEN/NITROGEN/ARGON LIQUID BACKUP AND SUPPLY SYSTEM

- Skids for pressure regulation and metering of various gases, such as nitrogen, oxygen, MO₂, argon, and carbon dioxide, widely used in industries like pharmaceuticals, chemical processing, and metallurgy.
- Cryogenic Liquid backup system with Storage Tanks, Pipeline, PRS and Other require Facilities Customized System
- Specialized skids for controlling, metering, and distributing liquids such as chemicals, fuels, and other industrial liquids, ensuring accurate flow control and safety in operations.
- Gas Line change over skid in Cryogenic application and Natural Gas application with flameproof equipment and PLC based control system, Auto changeover of Vaporizers and fuel feeding system for Boiler's gas trains CNG-PNG and different fuels.
- The components and equipment being installed shall be a reputed make and the equipment shall confirm in all respects to high standards of engineering, Design, Workmanship and shall meet all requirements as per the relevant standards.
- All the components and equipment will also meet the technical standards/specifications.
- The Scada panel has an integral display. This indicates inlet pressure is running, Inlet gas temperature, Outlet Pressure, Gas Flow, Level and Valve positions.

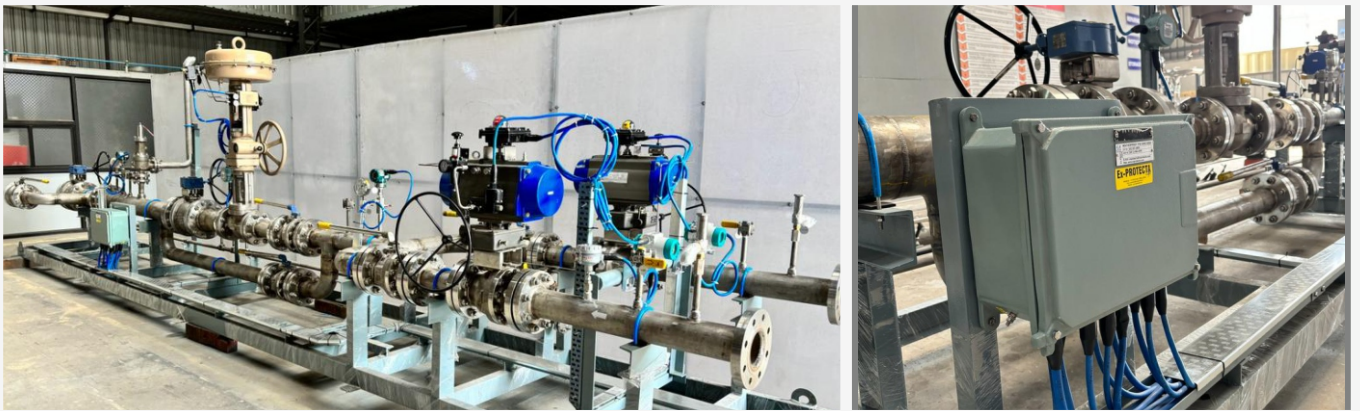


1 Liquid Distribution System – Auto or Manual – Cryogenic

2 Liquid Transfer Skid with Pump – Auto and Manual – Cryogenic

3 PLC Scada Based Automatic system with Instrumentation and Electrical work

4 Supply, Erection and Testing On-site Commissioning end to end Project



VACUUM JACKETED PIPELINE

- **AEROTECH** Specializes in the Design, Manufacture and Installation of Vacuum jacketed Multilayer Super Insulated piping for transfer Cryogenic Liquid, We Design custom based Vacuum Insulated piping in all sizes in Rigid and Flexible Constructions
- Cryogenic Application: Argon, nitrogen, Oxygen, Helium, LNG
- Pressure range: 1-50 bar
- Size range: 1/2" to 2" NB
- MOC: SS304/SS316
- Design Code: ASME
- End Connections: But Weld, Flanged, Bayonet

PRESSURE TESTING AND NITROGEN PURGING

- On-Site Pressure Testing, Pipeline cleaning, Degreasing and Purging as per client Requirement, Hydro Testing up to 500 bar and Pneumatic up to 200 Bar
- Tanks and Pipeline Purging with High Volume Nitrogen Gas and Specific Pressure and flow control skids



LNG REGASIFICATION, PRESSURE REDUCING AND METERING

The components and equipments being installed is reputed make and the equipments shall conform in all respects to high standards of engineering, design, workmanship and shall meet all requirements as per the relevant standards.

All the components and equipments will also meet the Technical Standards/Specifications.

Item Description	LNG REGASIFICATION AND PRMS
Supply Delivery Point	FLANGED ANSI B16.5
Design Codes	ASME B31.8, ASME Sec. VIII Div.1, EN and PESO GCR rules 2016
Design Life	15 Years, as per SMPV rules
Material of Construction – PRS	SS304/A 106 Gr. B
MAWP Pressure Reducing Station	0-49 Bar G

The line diagram of the LNG Re-gasification and Pressure reducing skid is shown in Fig.1.



CNG DE-COMPRESSION, PRMS

CNG De-compression unit, which will reduce the pressure from 250 bar (g) (CNG Cascades) to Pipeline network. The scope of work is limited to the CNG Decompression skid, which is consisting of Twin stream Regulators, Slam shut valves, Isolation Valves, Piping/Tubing, etc.

- Gas receiving from 250 Bar(g) to 15 Bar(g)
- Pressure Reduction unit to reduce the pressure from 250 Bar(g) to 15 Bar(g) to a outlet pressure of 3-5 Bar(g) with the help of Pressure Regulators along with Slam Shuts. Instrumentation and controls. Electrical items including local panel.
- The components and equipments being installed shall be of a reputed make and the equipments shall conform in all respects to high standards of engineering, design, workmanship and shall meet all requirements as per the relevant standards.
- All the components and equipments will also meet the Technical Standards/Specifications.

Item Description	CNG Pressure Reducing and Metering Skid
Application	3" # 150 Class Flange
Design Codes	ASME B31.8, ASME Sec. VIII Div.1, EN and PESO GCR rules 2016
Design Life	15 Years, as per SMPV rules
Material of Construction – PRS	SS & A 106 Gr. B
MAWP MEGC	250 Bar. G
MAWP Pressure Reducing Station	3~5 Bar G

The line diagram of the CNG Pressure reducing skid is shown in Fig.1.



HYDROGEN GAS PRESSURE REDUCING SKID

HYDROGEN Pressure Reducing unit, which will reduce the pressure from 250 bar (g) (HYDROGEN Cascades) to Filling Pipe line network. The scope of work is limited to the HYDROGEN Pressure Reducing skid, which is a double stream pressure regulating station equipped with inlet manifold header, Gas Master Valve, Gas Filter, Pressure regulators, Safety valve, Pressure Gauges, Isolation valve And Frame structure Ready to use in condition.

- Gas receiving from 200 bar(g) to 2 bar(g).
- Pressure Reduction unit to reduce the pressure from 200 Bar(g) to 10 Bar(g) to a outlet pressure of 2 Bar(g) with the help of Pressure Regulators along with Slam Shuts. Instrumentation and controls. Electrical items including local panel.
- The components and equipments being installed shall be of a reputed make and the equipments shall conform in all respects to high standards of engineering, design, workmanship and shall meet all requirements as per the relevant standards.
- All the components and equipments will also meet the Technical Standards/Specifications.

Item Description	Hydrogen Pressure Reducing System
Supply Delivery Point	Manifold Header With Four Hydrogen Inlet valve
Design Codes	ASME B31.8, ASME Sec. VIII Div.1, EN and PESO GCR rules 2016
Design Life	15 Years
Material of Construction – PRS	SS 304
MAWP	200 Bar. G
MAWP Pressure Reducing Station	1-10 Bar. G



GAS SAFETY SYSTEM

AEROTECH is the Indigenous Manufacturer of Gas Safety System related to Gas Cylinder filling and Gas use of Different application especially Flammable gas Hydrogen. We manufacture Safety System Equipment supply to client in complete compliance with industry standards using best quality materials. Prior to supply and installation stringently tested on standard quality parameters

All the components and equipments are meeting the Technical Standards/Specifications.



Safety Concern :

a) Asphyxiation:

H₂ is non-toxic however leakage of H₂ in the enclosed space can reduce concentration of Oxygen in the air which may lead to death.

b) Fire:

H₂ can be ignited by electrical spark, heat, open flame and static electricity.

H₂ has a wide range of flammable concentration in air. It is 4 to 75%. H₂ burns with almost invisible flame

c) Explosion:

Sudden release of H₂ in air within flammability range and then ignited. Density of H₂ being low, it can accumulate on the roof top or other higher enclosed areas.

d) Embrittlement:

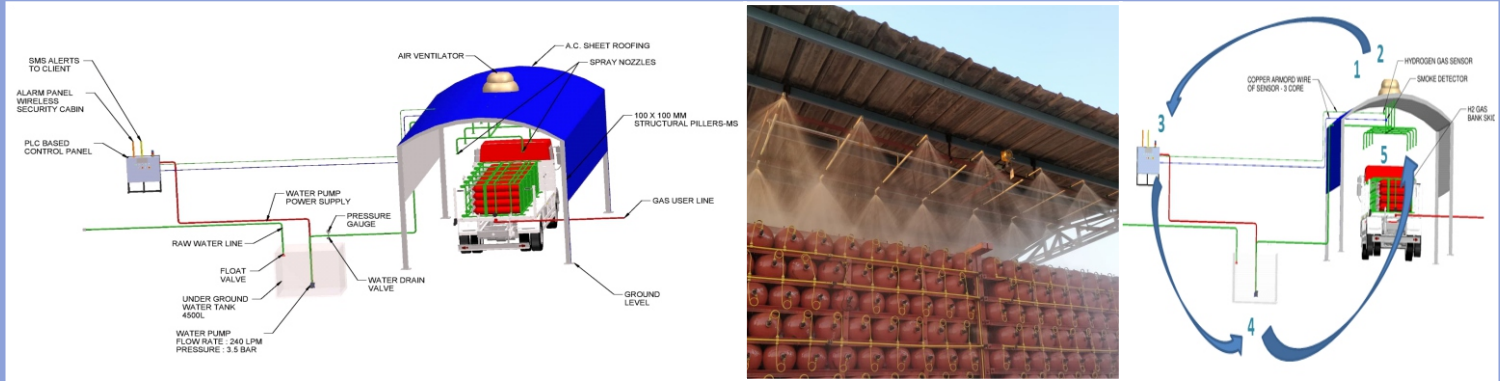
Some metals can become brittle when exposed to H₂. This parameter should be kept in mind while designing the system.

e) Leakage:

Leakage of H₂ can lead to fire (Invisible) due to formation of flammable mixture which can ignite due to frictional heat developed after coming in contact with air while release.

HYDROGEN GAS SAFETY SYSTEM :

System Overview



Function: When Hydrogen Gas Leak from any Joint of Piping due to any reason , It moves naturally upward Direction due to light weight and Air Flow of natural ventilation Fan, The H₂ Gas detector set PPM level detection of Hydrogen Gas and Give signal to Control Panel To start Water pump, Water spray from spray nozzle , which fitted in the top of Bank. Also the control panel give a Light Blinking signal, Hooters and SMS alert to Client. Water spray prevent the Fire , Explosion of Cylinders, Bank Due to Compressed Hydrogen Gas.

Features and Benefits:

- Fully Automatic control by PLC Based Control System
- System With Fully Flameproof Enclosures sensors and Gas detectors with resolution of PPM level Gas Leak detection
- Alarm Blinking and Hooters system with SMS alerts on Clients Phones
- Water sprinkler System operated by Control Panels Automatically
- Raw water Feeding by Auto Float valve in water Tank
- Brass Spray Nozzles with FM and UL approved for Fire fighting

Applications:

- Hydrogen Gas Vehicle Mounted Bank-Skid Protections at the time of Filling and Decanting of Hydrogen Gas
- Hydrogen and Flammable Gases Cylinder Storage Area Safety System
- Flammable Gas Manifold and PRS system Safety protection
- Gas Application Reactors and Tanks Protections
- Gas Compression Unit and Cylinder Filling Plants Safety



AEROTECH
INNOVATION PRIVATE LIMITED



AK
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PROUDLY SERVING OUR NATION

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